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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,247	02/28/2002	Kazuo Ojima	381NT/50973	2022

23911 7590 09/12/2003

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EXAMINER

TRIEU, THAI BA

ART UNIT. PAPER NUMBER

3748

DATE MAILED: 09/12/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/084,247

Applicant(s)

OJIMA ET AL.

Examiner

Thai-Ba Trieu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 22-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 22-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This Office Action is in response to the Amendment filed on August 13, 2003.  
Claims 1-21 were cancelled, and new claims 22-28 were added.

#### ***Specification***

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Specifically, in claim 22, line 4; claim 26, line 5; and claim 27 line 4, claim 28, line 2, ***“needle like”*** lacks proper antecedent basis in the specification.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

Claims **22, 26 and 27** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the word ***“needle-like”*** renders the claim indefinite, because it is not clear to the examiner that to which meaning applicants want to reference to which meaning, such as ***“needle bearing”***, or the configuration of ***“needle-like brass alloy”***.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

***Claims 22, 25 and 27 are rejected under 35 U.S.C. 103(a) as best understood as being unpatentable over Suzuki (Patent number JP 60138228 A), in view of either Komori (Mitsubishi Metal Corp. Publication Number JP57076143 A), or Baba (Patent number 5,296,057); and further in view of Ruchel et al. (Patent Number 4,676,848).***

Suzuki discloses in an internal combustion engine, a turbocharger having a rotary shaft (Not Numbered), a radial bearing (6) being provided for supporting said rotary shaft; and said radial bearing being made of a floating metal (See Figure 1, and Abstract).

However, Suzuki fails to disclose a bearing comprising a brass alloy in which an Mn-Si compound is crystallized in a brass base material; and Mn-Si compound being elongated needle-like in an axial direction of said rotary shaft and is dispersed; and said radial bearing being made of floating metal.

Komori/Baba teaches that it is conventional in the dispersion-strengthened brass alloy art to utilize a brass alloy in which an Mn-Si compound is crystallized in a brass base material; and said Mn-Si compound being elongated along the rolling direction;

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(See Abstract of Komori (Mitsubishi Metal Corp.), Abstract, Column 1, lines 14-38, Column 2, lines 8-33, and 45-68, and Column 3, lines 1-17 of Baba).

Additionally, Ruchel et al. teach that it is conventional in the brass alloy compound art to utilize the needle-like brass alloy configuration (See Column 6, lines 45-49, Column 8, line 1-4)

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a brass alloy, as taught by Komori/Baba, and the needle-like configuration, as taught by Ruchel et al., to improve the wear resistant for the bearings, and to achieve practical longevity of the Suzuki device.

***Claims 22, 25 and 27 are rejected under 35 U.S.C. 103(a) as best understood as being unpatentable over Suzuki (Patent number JP 60138228 A), in view of either Komori (Mitsubishi Metal Corp. Publication Number JP57076143 A), or Baba (Patent number 5,296,057); and further in view of Mallof (Patent Number 6,305,169 B1).***

Suzuki discloses in an internal combustion engine, a turbocharger having a rotary shaft (Not Numbered), a radial bearing (6) being provided for supporting said rotary shaft; and said radial bearing being made of a floating metal (See Figure 1, and Abstract).

However, Suzuki fails to disclose a bearing comprising a brass alloy in which an Mn-Si compound is crystallized in a brass base material; and Mn-Si compound being elongated needle-like in an axial direction of said rotary shaft and is dispersed; and said radial bearing being made of floating metal.

Komori/Baba teaches that it is conventional in the dispersion-strengthened brass alloy art to utilize a brass alloy in which an Mn-Si compound is crystallized in a brass base material; and said Mn-Si compound being elongated along the rolling direction; (See Abstract of Komori (Mitsubishi Metal Corp.), Abstract, Column 1, lines 14-38, Column 2, lines 8-33, and 45-68, and Column 3, lines 1-17 of Baba).

Additionally, Mallof teaches that it is conventional in the turbocharger art to utilize the needle bearing (See Column 3, lines 33-45, Column 4, line 21-26)

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a brass alloy, as taught by Komori/Baba, and the needle bearing, as taught by Mallof, to improve the wear resistant for the bearings, and to achieve practical longevity of the Suzuki device.

***Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (Patent number JP 60138228 A), in view of either Komori (Mitsubishi Metal Corp. Publication Number JP57076143 A), or Baba (Patent number 5,296,057), and Mallof (Patent Number 6,305,169 B1); and further in view of Miyake (Nippon Mining Co. Publication Number JP 62274036 A).***

The modified Suzuki device discloses the invention as recited above; however, fails to disclose a radial bearing made of a copper alloy mainly comprising Cu, Zn, Al, Mn, and Si.

Miyake teaches that it is conventional in the wear and corrosion resistant art to utilize a radial bearing (6) made of a copper alloy mainly comprising Cu, Zn, Al, Mn, and Si (See Table 1, and Abstract).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized a radial bearing made of a copper alloy mainly comprising Cu, Zn, Al, Mn, and Si, as taught by Miyake, to improve the practical longevity of the bearing in the modified Suzuki device as being operated at high speed and high load.

***Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Komori (Mitsubishi Metal Corp. Publication Number JP57076143 A), or Baba (Patent number 5,296,057), in view of Ruchel et al. (Patent Number 4,676,848).***

Komori/Baba discloses a brass alloy product in which an Mn-Si - compound is crystallized in a brass base material; wherein said brass alloy has a structure in which an Mn-Si compound crystallized in said brass base material is elongated and is dispersed in a direction best matched to abrasion resistance (See Abstract of Komori (Mitsubishi Metal Corp.), Abstract, Column 1, lines 14-38, Column 2, lines 8-33, and 45-68, and Column 3, lines 1-17 of Baba).

However, Komori/Baba fails to disclose the configuration of the Mn-Si being needle-like.

Ruchel et al. teach that it is conventional in the brass alloy art to utilize the configuration of the Mn-Si being needle-like (See Column 6, lines 45-49, Column 8, line 1-4).

It would have been obvious to one having ordinary skill in the art at that time the invention was made, to have utilized the needle-like configuration, as taught by Ruchel et al., to improve the workability and the high wear resistance of the product.

### ***Allowable Subject Matter***

Claims **24 and 26** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

### ***Response to Arguments***

Applicant's arguments with respect to claims 22-28 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Nakashima et al. (US Patent Number 5,282,908) disclose high strength  $\alpha$  brass containing Mn, Si, Co, Fe, Sn, and Pb.
- Nishi et al. (Patent Number JP 01036743 A) discloses wear resistant aluminum alloy.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP



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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai-Ba Trieu whose telephone number is (703) 308-6450. The examiner can normally be reached on Monday - Thursday (6:30-5:00), every Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on (703) 308-2623. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9302 for regular communications and (703) 872-9302 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

TTB  
September 9, 2003



Thai-Ba Trieu  
Patent Examiner  
Art Unit 3748



THOMAS DENION  
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